

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/628,804

REMARKS

Summary Of The Office Action & Formalities

Claims 1-7 are all the claims pending in the application. Claims 4-7 have been withdrawn pursuant to Applicants' election to prosecute claims 1-3 in response to the Examiner's restriction requirement. By this Amendment, Applicants are amending claims 1-3 and adding new claims 8-11, and canceling claims 4-7. Applicants reserve the right to prosecute claims 4-7 in a continuing application.

Applicants thank the Examiner for acknowledging their claim to foreign priority and for confirming that the certified copy of the priority document was received by the USPTO.

Applicants also thank the Examiner for initialing the references listed on form PTO-1449 submitted on July 28, 2000, thereby confirming that these references have been considered.

The Examiner objects to the drawing because it is not labeled as "Figure 1." Applicants respectfully submit that the Examiner's requirement to label the sole figure as "Figure 1" violates 37 C.F.R. 1.84 (u)(1), which states the following for numbering of views:.

The different views must be numbered in consecutive Arabic numerals, starting with 1, independent of the numbering of the sheets and, if possible, in the order in which they appear on the drawing sheet(s). Partial views intended to form one complete view, on one or several sheets, must be identified by the same number followed by a capital letter. View numbers must be preceded by the abbreviation ``FIG.'' Where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation ``FIG.'' must not appear.

The Examiner objects to the abstract because it includes multiple paragraphs. Applicants are replacing the abstract to overcome this objection.

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The Examiner objects to the specification at page 4 because there is no reference to "Figure 1." Applicants refer the Examiner to 37 C.F.R. § 1.884(u)(1) as noted above. Furthermore, Applicants are amending page 4, line 29 of the specification to recite "the figure" in place of "figure 1."

The Examiner has objected to the title of the specification as not being adequately descriptive of the disclosed invention. Applicants are amending the title in accordance with the Examiner's suggestion.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for the reasons set forth at pages 3-4 of the Office Action. Applicants are amending the claims to overcome this rejection. The amendments to the claims are not intended to be narrowing amendments surrendering any equivalents.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lugten (USP 3,483,499) in view of Val et al. (USP 5,640,760) (which corresponds to EP 682 365) and EP 782 154 ("EP '154").

Applicants respectfully traverse.

Claim Rejections - 35 U.S.C. 103

In rejecting claims 1-3, the Examiner takes the position that Lugten discloses all the features of these claims, except that "Lugten does not mention the molding material is composed of an insulative material or the step of cutting the molded block to expose conductive tracks." Office Action at page 5. However, the Examiner relies on Val et al. to allege that this reference

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teaches the formation of a molded block with polymerizable resin which is subsequently cut at slicing planes 23 within a stacked block (see Figs 2c and 3) to purposely expose conductive tracks 25 on side surfaces of the cut block material. Such an advantage of this process allows the electrical interconnection with other electrical circuits (see col. 3, lines 47-55).

It would have been obvious . . . to have modified the Lugten method by including the step of cutting the molded block, as taught by Val, to positively expose conductive tracks on the side surfaces of a stacked block material and also advantageously allow for the electrical interconnection of the block module with other electrical circuits.

Office Action at pages 5-6. Applicants respectfully disagree.

As stated in Section 706.02 of the Manual Of Patent Examining Procedure ("MPEP")

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that the Examiner has not met all these criteria. In particular, the Examiner has not shown that the applied art provides the requisite motivation to modify Lugten to obtain the claimed invention. Furthermore, the Examiner has not shown that the prior art references when combined teach or suggest all the claim limitations.

First, the Examiner takes the position that Lugten "suggests that it is conventional in the art to mold the entire stacked assembly with an encapsulating material, which when the

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encapsulated material is dried, would form a rigid block (discussed at col. 4, lines 56-57)."

Office Action at page 5.

It is true that Lugten states that "the entire transformer assembly may be encapsulated." Lugten at col. 4, lines 56-57 (emphasis added). However, this step of encapsulating clearly comes after electrical connections are made between the terminals t_1, t_2 of the different stacked wafers. Therefore, Lugten would teach away from cutting the encapsulated transformer to expose the terminals.

Second, the process disclosed in Val et al. is intended for batch manufacturing of bars 32 from a stack 33 of PCBs 20. See Val et al. at col. 1, lines 35-37. In particular, the requirement for slicing the stack 33 is a direct result of the manufacturing step of mounting a plurality of packages 21 in rows and columns such that the packages are electrically connected to conductive tracks 25 borne by the PCB 20. See Val et al. at col. 2, lines 28 et seq. and Figs. 2a-2c. As shown, each conductive track is initially connected to two packages 21 that will be part of different bars 32 after the slicing operation.

Lugten is silent with respect to batch manufacturing, and Val et al. does not teach or suggest the application of its batch manufacturing to the inductive device of Lugten.

Applicants note that the Examiner takes the position that the motivation to modify Lugten to include the step of cutting is "to positively expose conductive tracks on the side surfaces of a stacked block material and also advantageously allow for the electrical interconnection of the block module with other electrical circuits." However, Lugten already discloses that the terminals t_1, t_2 , "of each set are extended so as to lie or extend in part on and across the adjacent

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edge of the respective wafer" Lugten at col. 3, lines 28-29. Therefore, Lugten would teach that there is no need to adopt a cutting operation to further expose these terminals. Moreover, as noted above, one skilled in the art would understand from Val et al. that the benefit of slicing the stack 33 is to obtain a plurality of bars 32 using batch manufacturing.

In view of at least the foregoing distinctions, the Examiner is kindly requested to reconsider and withdraw the prior art rejections of claims 1-3.

New Claims

For additional coverage merited by the scope of the present invention, Applicants are adding new claims 8-11. Claim 8 recites the steps of forming first and second supports, each having conductive tracks that forms a winding thereon, stacking the supports into a stacked assembly, molding material over the assembly to form a block, and cutting the block laterally along the stacked assembly to expose respective ends of the first and second conductive tracks at a common alignment level and so that the exposed ends are flush with one face of the blocks. Therefore, claim 8 is believed to be allowable for reasons similar to those set forth above. Claims 9-11 are believed to be allowable at least by reason of their respective dependencies. No new matter is added.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

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Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

The title is changed as follows:

[MODULE INCLUDING AN INDUCTIVE WINDING AND METHOD OF OBTAINING IT] A METHOD OF OBTAINING A MODULE INCLUDING AN INDUCTIVE WINDING

IN THE SPECIFICATION:

The specification is changed as follows:

Page 4, paragraph beginning at line 29:

The electronic module 1 shown by way of example in the figure [1] includes an inductive winding around a magnetic core comprising two parts 2A, 2B abutted end-to-end. An arrangement of this kind is intended to constitute a converter, for example.

IN THE CLAIMS:

Claims 4-7 are canceled.

The claims are amended as follows:

Claim 1. (Amended) A method of obtaining a module including at least one inductive winding made up of one or more conductive tracks on a printed circuit film support on which

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said conductive tracks form turns which are combined to form [a winding or a plurality of parallel and/or coaxial] one or more windings, which method includes the following steps:

- forming a stacked assembly by stacking a plurality of aligned modular printed circuit film elements, each carrying a set of turns of one or more conductive tracks which [are intended to] form part of [a winding or of a plurality of parallel and/or coaxial windings] the one or more windings and whose one or more conductive tracks terminate at or near [the] an edge [or one edge] of the printed circuit film element [that includes them],
- molding an insulative material over the stacked assembly of modular printed circuit film elements to constitute a rigid block,
- cutting the [molded] rigid block laterally along the [stack] stacked assembly to expose ends of the conductive tracks at a common alignment level and so that [they are] the exposed ends are flush with [the] a surface of one face of the block, which cutting step is performed at least once, and
- creating connections on the one face [or faces] of the block with which the [modular conductive track elements] exposed ends are flush to interconnect [them] the conductive tracks selectively and to connect [them] the conductive tracks to connection means external to the module.

Claim 2. (Amended) The method claimed in claim 1 wherein at least one end of [a stack of modular elements is associated with] the stacked assembly has one or more supplementary

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modular printed circuit film elements which carry components and which have conductive tracks which terminate at a level corresponding to [an] the common alignment level of the modular printed circuit film elements of said [stack] stacked assembly that carry the sets of turns of the one or more conductive tracks in order to perform the molding, cutting and connection creation steps simultaneously on [all the associated modular elements] the stacked assembly, including the one or more supplementary modular printed circuit film elements which carry components.

Claim 3 (Amended) The method claimed in claim 1 wherein at least one orifice is formed in the same position in [the modular elements adapted to constitute a module] each of the modular printed circuit film elements to form [therein] a conduit in the stacked assembly enabling a core to be inserted through said [modular elements] stacked assembly.

Claims 8-11 are added as new claims.

IN THE ABSTRACT OF DISCLOSURE:

The abstract is changed as follows:

A method of obtaining a module including at least one inductive winding made up of one or more conductive tracks on a printed circuit film support on which the tracks form turns which are combined to form a winding or a plurality of parallel and/or coaxial windings. [includes the following steps:

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-] The method includes the steps of: stacking a plurality of aligned modular printed circuit film elements carrying a set of turns which are intended to form part of a winding or of a plurality of parallel and/or coaxial windings and whose tracks terminate at or near the edge or one edge of the element that includes them, [
-] molding an insulative material over the stacked assembly of modular elements to constitute a rigid block, [
-] cutting the molded block laterally along the stack to expose the conductive tracks at a common alignment level and so that they are flush with the surface of one face of the block, which cutting step is performed at least once, and [
-] creating connections on the face or faces of the block with which the modular conductive track elements are flush to interconnect them selectively and to connect them to connection means external to the module.